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COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS

Sub-Committee of Experts on the Transport of Dangerous Goods
(Thirteenth session,
Geneva, 7-17 July 1997,
agenda item (3 (d))

DRAFT AMENDMENTS TO THE MODEL REGULATIONS ON THE TRANSPORT OF DANGEROUS GOODS

Other draft amendments

Definition for substances related to self-reactive substances

Transmitted by the Expert of the United States of America

1. The difficulty of classifying a substance as a substance related to a self-reactive substance (SRSRS) in accordance with 2.4.2.3.1.1(b) has been noted in previous Sub-Committee discussions. The provision is vague and open ended in that any substance with a self-decomposition temperature greater than 75 °C can be considered as a SRSRS. In the opinion of the expert from the United States, the definition should be clarified.

2. In the ninth revised edition of the UN Recommendations the definition of substances related to self-reactive substances in paragraph 14.2.2.1.2 (paragraph 2.4.2.3.1.1(b) in the reformatted text) and paragraph 4.4.4 (not found in the reformatted text) cross refer to each other, this implied that an SRSRS is a substance which may have explosive properties because it fails one or two tests of Test Series 1 and 2 of Class 1. It is also implied that a SRSRS is thermally hazardous because the SADT is 75 °C or higher.

3. For reasons discussed below, the description of SRSRS in 2.4.2.3.1.1(b) is confusing and not consistent with the description of substances which may be assigned to Division 4.1.

4. First, the reference to the SADT in the SRSRS definition gives the impression that SRSRS substances are thermally unstable. This is contrary to the general philosophy of the Recommendations where substances that are stable at temperatures higher than a maximum possible ambient temperature are regarded as thermally stable. This is evidenced in several provisions. For example:

- Explosives are required to be stable at temperatures up to 75 °C;

- Organic peroxides and self-reactive substances are required to be transported under temperature control if the SADT is less than 50 °C or 55 °C, respectively; and

- The pressure retention capabilities of packagings is evaluated at 55 °C.

5. Therefore, it follows that substances related to self-reactive substances which by definition have an SADT greater than 75 °C are *thermally stable* and should not be subject to the Recommendations on the basis of their thermal stability.

6. Second, the name "substances related to self-reactive substances" is misleading in that substances that could be assigned to Division 4.1 are not necessarily related to self-reactive substances. This is most clearly evidenced by the different test procedures that are used in classifying self reactive substances and SRSRS. Also, self-reactive substances are thermally unstable while SRSRS are thermally stable. The difficulty caused by 2.4.2.3.1.1(b) can be corrected by the proposals below.

Proposals

7. Considering that substances assigned to Division 4.1 are most closely related to desensitized explosives, the following amendments are proposed:

(a) The definition for desensitized explosives should be numbered 2.4.2.4.1;

(b) A new paragraph 2.4.2.4.2 should be added as follows: "Other solid substances that are not self-reactive substances as defined in 2.4.2.3.1.1(a) and that are not of Class 1 or Class 5 may be assigned to Division 4.1 on the basis of 4.4.4 (refer to the 9th revised edition text. *Note: This text is not covered in ST/SG/AC.10/R.505/Add.1*) UN 2956, UN 3241, 3242 and UN 3251 are such entries;

(c) Delete paragraph 2.4.2.3.1.1(b);

(d) Delete the wording "and related" from 2.0.1.1 (in the description of Division 4.1), 2.0.3(c), 2.4.1.1(a), 2.4.2, 2.4.2.1(b) and 2.4.2.3.2;

(e) Revise 2.4.2.3 to read: "Division 4.1 *Self-reactive substances*";

(f) Delete the words "and related" in the Table of Contents (see page 16 of -AC.10/R.505) and 1.21 on page 7;

(g) Delete paragraph 2.4.2.3.2.2 (The examples of UN entries would be transferred to 2.4.2.4.2) and renumber paragraph 2.4.2.3.2.3 as 2.4.2.3.2.2;

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COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS

Sub-Committee of Experts on the Transport of Dangerous Goods
(Thirteenth session,
Geneva, 7-17 July 1997,
agenda item (5 (b))

GLOBAL HARMONIZATION OF SYSTEMS OF CLASSIFICATION AND LABELLING OF CHEMICALS

ILO/UN Working Group on Harmonisation of classification criteria: Physical hazards - flammability Aerosols

Transmitted by the European Commission

During discussions on flammability criteria with regard to aerosols at the working group on flammability in July 1996, reference was made to ongoing work in the European Community to develop test guidelines for aerosols. This issue was also touched upon at the December meeting of the UN Committee in 1996 and the European Commission undertook to submit documentation on this issue (see para 56 of the official report). The following is an information paper on the existing EU system for aerosol other than transport.

Council Directive 75/324/EEC harmonises the Member States' legislation on aerosols. Although this Directive mainly aims at the harmonisation of the rules related to the pressure risk, it also lays down provisions with regard to the flammability. In particular, in the original version of the Directive, point 1.8 of the Annex gave a definition of "flammable contents", and Article 8.1.d referred to point 2.2 of the Annex, according to which the aerosol had to bear (on itself or on a label) some inscriptions related to the flammability, as follows:

point 2.2.b: *"Do not spray on a naked flame or any incandescent material", unless the aerosol dispenser is designed for that purpose;*

point 2.2.c: *"Flammable" or the symbol of a naked flame if the contents include more than 45 % by weight, or more than 250 g of flammable components.*

It should be noted that these provisions refer to the presence of flammable components and to the use of the aerosol, not to it's transport, which is dealt with in other Community legislation (e.g. Directives 94/55/EC and 96/49/EC). In particular, the provision in point 2.2.c recognised that, when the flammable contents are less than 45 %, no regulation requires the indication of the flammability, on the grounds that the product ejected by the aerosol presents a low flammability risk for the user.

In 1991 an accident occurred due to a fire developed by the content of an aerosol. The EU Member State where that accident occurred applied the safeguard clause under Article 10 of the Council Directive. As a consequence of the discussions on that issue, the European Commission took the view that a technical adaptation of the Directive was needed in order to prevent any further accident to the users due to the flammability of the aerosols. Therefore, in accordance with the opinion of the Committee established under the Council Directive, it adopted Commission Directive 94/1/EC, which amends Council Directive 75/324/EEC.

The EC Legislation in force at present.

As a result of the amendment made by Commission Directive 94/1/EC, Council Directive 75/324/EEC lays down specific provisions only concerning the risk linked to the use of the aerosol, while reference is made to the general Council Directive 67/548/EEC on classification and labelling of dangerous substances for supply and use as far as the risk linked to the mere presence of flammable components is concerned.

According to the amendment:

a) both the definition of "flammable contents" given in point 1.8 and the indications on flammability provided in the new points 2.2.b (former point 2.2.c) and 2.3.b (former point 2.2.b) are no longer specific to aerosols. They are taken from the terms given in Council Directive 67/548/EEC on dangerous substances, i.e. they are the general provisions on the classification and on the labelling of dangerous substances (and preparations);

b) an indication of flammability is required irrespective of the percentage of the flammable components (compared with the previous text of point 2.2.c, where such indication was required only when the flammable components represent at least 45 % in weight or are at least 250 g);

c) the form of such indications (inscriptions, symbol/label and risk phrases) is that of Council Directive 67/548/EEC.

The new legislation, therefore, recognises that, in principle, there could be a flammability risk for the user as soon as the aerosol contains a flammable component, irrespective of the percentage. However, it would have been unreasonable to require the said indication in each and every case, including in the case where there is evidence that no flammability risk could arise "under normal or reasonably foreseeable conditions of use". Therefore, a derogation is laid down, under Article 9a of the new Commission Directive 94/1/EC, according to which:

"Where the person responsible for the marketing of aerosol dispensers is in possession of test results or other data showing that although those aerosol dispensers have flammable contents they do not present any risk of ignition under normal or reasonably foreseeable conditions of use, he may on his own responsibility decide not to apply the provisions of points 2.2.b and 2.3.b of the Annex.

He shall make a copy of such documents available to the Member States.

In such cases the quantity of flammable material contained in the aerosol dispenser must be stated clearly on the label, in the form of the following legible and indelible wording: "X % by mass of the contents are flammable"".

Council Directive 75/324/EEC already foresaw the situation where the flammability risk linked to the use of aerosol is so low that no specific indications are required. The new version, instead of fixing a percentage (45%) of flammable components, requires the person responsible for the marketing of the aerosol to provide evidence that there is not such a flammability risk. This evidence might be provided by means of tests of whatever nature. However, the European Commission is at present taking actions in order to harmonise those tests; a methodology has been drafted and will soon be submitted to the opinion of the "Committee for adaptation of Directive 75/324/EC".

Harmonisation of the classification of aerosols

Since under the current EU legislation the classification criteria as regards the flammability of aerosols are not specific to aerosols (they are the general criteria laid down in Council Directive 67/548/EEC for all flammable hazards), this issue should be dealt with in the framework of the harmonisation of flammability criteria for dangerous substances and preparations.

Harmonisation of the labelling of aerosols

On the contrary, as regards the labelling of the individual aerosols, particular attention should be drawn to the fact that there are specific provisions for aerosols in Directive 75/324/EEC, as amended.

In particular, it will not be wise to support a solution according to which all aerosols have to bear a label indicating the flammability hazard depending on whether or not they contain more than 45 % in flammable components.

Such a solution has been followed under the original version of Directive 75/324/EEC. The above mentioned reasons clearly show that the "percentage approach" is not fully appropriate, while the approach followed in Directive 94/1/EC is more reasonable and, above all, provides for a much better protection of the user. Directive 94/1/EC is a step forward as far as the protection of the user is concerned. In fact, a criteria based on the percentage of flammable contents has been shown not to be fully adequate, as the accident which occurred made clear. Therefore, only when the absence of any flammability risk can be demonstrated will it be possible to dispense with the requirement for labelling of the aerosol.

Therefore, we should maintain a possibility to retain or introduce a provision according to which all aerosols have to bear an indication of flammability hazard whenever they contain a flammable substance, irrespective of the percentage of the latter, in downstream legislation.

From the Community point of view, the derogation clause laid down in Article 9a of Directive 75/324/EEC would need to be maintained. In particular, the derogation clause should be maintained even in the case where the flammable components represent more than 45 % of the contents of the aerosol. In the particular case of aerosols, the Community considers that the presence on some aerosols of a symbol/label indicating a flammability hazard, irrespective of it's actual risk for the user, will be misleading on the actual meaning of that symbol, and will result in a "devaluation" of the symbol/label. This derogation from labelling requirements is justified as it has no effect on the level of protection.

In addition, it would be inconsistent to address in the individual label of the aerosol the flammability risk linked to the transport, because what is important during transport is that the label indicating the flammability hazard is on the external packaging (containing a number of aerosols).

Therefore, as regards the individual labelling of aerosols related to flammability, it would be desirable to maintain provisions such as those laid down in Directive 94/1/EC. Given that a harmonised methodology of tests is about to be adopted within the Community, this gives further weight to such a solution.

Conclusions

At the end of the harmonisation process, it is desirable:

- to have a harmonised classification system for flammability;

- to keep separated from the classification principles the rules which would be applied for hazard communication, like labelling. Different labelling needs may occur as regards the labelling of aerosol dispensers intended for the final user, as opposed to labelling for transport purposes of packagings containing aerosol dispensers;

- to maintain the classification requirements for individual aerosols. These requirements, according to Commission Directive 94/1/EC, are those of Council Directive 67/548/EEC. As a consequence of classification, the flammability hazard should be indicated on the label irrespective of the percentage of the flammable contents unless the manufacturer demonstrates (by means of the methodology tests which are being harmonised at Community level) that there is no flammability risk for the user (derogation clause).

List of Annexes

Annex 1 : Working document currently awaiting approval by EU Member States (FR original).

Annex 2 : Council Directive 75/324/EEC (EN & FR original).

Annex 3 : Commission Directive 94/1/EEC (EN & FR original).

PROJET

Proposition de directive..../..../CE de la Commission, du .....1997, portant adaptation technique de la directive 75/324/CEE du Conseil concernant le rapprochement des législations des Etats membres relatives aux générateurs d'aérosols

LA COMMISSION DES COMMUNAUTES EUROPEENNES,

vu le traité instituant la Communauté européenne,

vu la directive 75/324/CEE du Conseil, du 20 mai 1975, concernant le rapprochement des législations des Etats membres relatives aux générateurs d'aérosols ([1]), modifiée en dernier lieu par la directive 94/1/CE de la Commission, du 6 janvier 1994 ([2]), et notamment son article 10 paragraphe 3;

considérant que la clause de sauvegarde prévue à l'article 10 de la directive 75/324/CEE a été mise en œuvre par un Etat membre, que la directive 94/1/CE de la Commission ([2]), a porté adaptation technique de la directive 75/324/CEE du Conseil ([1]), en se référant pour partie à certaines dispositions de la directive 67/548/CEE du Conseil, du 27 juin 1967 ([3]);

considérant que les mentions portant les conseils de prudence relatifs à l'utilisation des générateurs d'aérosols qui contiennent des composants inflammables ne correspondent pas complètement aux mentions prévues dans d'autres textes communautaires, notamment dans la directive 67/548/CEE ([3]) ; que dès lors il y a lieu de modifier la directive 75/324/CEE ([1]) modifiée pour la rendre cohérente avec ces autres dispositions communautaires;

considérant que la directive 75/324/CEE modifiée, notamment son article 9 bis, prévoit que lorsque le responsable de la mise sur le marché des générateurs d'aérosols dispose d'élements justificatifs s'appuyant sur des essais ou des analyses appropriées qui montrent que ces générateurs d'aérosols bien qu'ils contiennent des composants inflammables ne présentent pas de risque d'inflammation dans les conditions normales ou raisonnablement prévisibles d'utilisation, il peut, sous sa propre responsabilité, ne pas appliquer certaines dispositions de la directive concernant les mentions que les générateurs d'aérosols doivent porter lorsqu'ils contiennent des composants inflammables;

considérant que les responsables de la mise sur le marché des générateurs d'aérosols pourraient avoir recours à des méthodes d'essais différentes qui ne feraient pas l'objet d'une reconnaissance mutuelle; que dès lors il convient de prévoir une méthodologie d'essai appropriée à laquelle doivent être soumis les générateurs d'aérosols pour qu'ils puissent bénéficier le cas échéant de la possibilité, déjà prévue par la directive, de déroger à certaines prescriptions de celle-ci;

([1]) JO n° L 147 du 9.6.1975, p. 40.
([2]) JO n° L 23 du 28.1.1994, p. 28.
([3]) JO n° 196 du 16.08.1967, p. 1

considérant qu'une méthodologie d'essais a été élaborée, qu'elle a pour objet d'apprécier l'inflammabilité des produits expulsés des générateurs d'aérosols ainsi que les risques qui en résultent;

considérant que cette méthodologie d'essais doit être considérée comme appropriée;

considérant que les dispositions de la présente directive sont conformes à l'avis du comité pour l'adaptation au progrès technique,

A ARRETE LA PRESENTE DIRECTIVE :

Article premier

La directive 75/324/CEE est modifiée comme suit.

1) Le texte du premier alinéa de l'article 9 bis est remplacé par le texte suivant:

«Le responsable de la mise sur le marché de générateurs d'aérosols qui sont équipés d'une valve doseuse, dispositif qui permet lors de son actionnement de délivrer une dose préalablement déterminée du contenu d'un générateur d'aérosol, ou de générateurs d'aérosols qui ont fait l'objet des essais décrits aux points 7.1 et 7.2 de l'annexe, dont les résultats satisfont aux critères fixés au point 7.3 de l'annexe, peut, sous sa propre responsabilité, ne pas appliquer les dispositions prévues aux points 2.2.b) et 2.3.b) de l'annexe.»

2) Au deuxième alinéa de l'article 9bis le mot "documents" est remplacé par les mots "rapports d'essais".

3) L'annexe est modifiée conformément à l'annexe de la présente directive.

Article 2

1. Les Etats membres adoptent et publient, avant le 1er juin 1998, les dispositions législatives, réglementaires et administratives nécessaires pour se conformer à la présente directive. Ils en informent immédiatement la Commission.

Lorsque les Etats membres adoptent ces dispositions, celles-ci contiennent une référence à la présente directive ou sont accompagnées d'une telle référence lors de leur publication officielle. Les modalités de cette référence sont arrêtées par les Etats membres.

Ils appliquent ces dispositions à partir du 1er juin 1998.

2. Les Etats membres communiquent à la Commission le texte des dispositions de droit interne qu'ils adoptent dans le domaine régi par la présente directive.

Fait à Bruxelles, le 19 Par la Commission

ANNEXE

L'annexe de la directive 75/324/CEE est modifiée comme suit:

1) Le texte du point 2.3 b) est remplacé, en tant que de besoin, par le texte suivant:

«b) lorsqu'il contient des composants inflammables, les conseils de prudence suivants:

- "Ne pas vaporiser vers une flamme ou un corps incandescent",
- "Conserver à l'écart de toute flamme ou source d'étincelles - Ne pas fumer",
- "Conserver hors de la portée des enfants".»

2) Le point suivant est ajouté après le point 6:

«7. METHODOLOGIE D'ESSAIS

7.1 Principes généraux

- Tout générateur d'aérosols dont le contenu sort sous la forme d'une mousse ou d'une pâte est testé selon la méthode d'essai A décrite ci-dessous.
- Tout générateur d'aérosols dont le contenu sort sous la forme d'un spray ou d'un jet est testé selon les méthodes d'essais B et C décrites ci-dessous.
- Tout générateur d'aérosols dont le contenu sort sous la forme d'un spray ou d'un jet et mousse au contact d'une surface est testé selon les méthodes d'essais A, B et C décrites ci-dessous.
- Lors des essais, les générateurs d'aérosols doivent être utilisés conformément aux indications données par le responsable de la mise sur le marché.
- Les générateurs d'aérosols sont testés à une température égale à 20°C ± 1°C. La température du local où sont effectués les essais doit être comprise entre 15°C et 25°C et le taux d'humidité relative de l'air entre 30% et 80%.

7.2 Description des essais

7.2.1 Méthode d'Essai A :

Evaluation de l'inflammabilité des produits qui se présentent après leur sortie d'un générateur d'aérosols sous la forme d'une mousse ou d'une pâte

7.2.1.1 Objectif :

Cet essai a pour objet d'apprécier l'inflammabilité d'un produit qui se présente après sa sortie d'un générateur d'aérosols sous la forme d'une mousse ou d'une pâte.

7.2.1.2 Domaine d'application :

Cette méthode est applicable aux produits qui se présentent après leur sortie d'un générateur d'aérosols sous la forme d'une mousse ou d'une pâte. Cette méthode est également applicable aux produits en spray qui moussent au contact d'une surface.

7.2.1.3 Méthode :

a) Matériel et appareillage

Règle graduée, supports et pinces
Verre de montre résistant au feu, d'environ 150 mm de diamètre
Chronomètre gradué (0,2s)
Bougie
Balance de laboratoire à 0,1 g
Bain d'eau maintenu à 20°C ± 1°C
Zone de ventilation contrôlée hors courant d'air.

Le verre de montre est placé sur une surface résistant au feu dans une zone hors courant d'air qui peut être ventilée après chaque test. La règle graduée est positionnée juste derrière le verre de montre et maintenue verticalement au moyen d'un support et d'une pince.

Le positionnement de la règle est tel que son origine est au niveau de la base du verre de montre avec le plan horizontal.

b) Mode opératoire

Avant de procéder au test d'inflammabilité, il est nécessaire de mesurer le débit du générateur d'aérosols qui doit être étudié.

Peser le générateur d'aérosols et le conditionner dans le bain d'eau maintenu à 20°C ± 1°C, pendant 30 minutes.

Sur la base du débit préalablement mesuré et en accord avec les instructions du producteur, distribuer approximativement 5 g de produit sur le centre du verre de montre. Moins de 5 secondes après la distribution, présenter la bougie allumée à la base de la mousse et en même temps déclencher le chronomètre.

Noter les points suivants:

- si le produit est inflammable ou ininflammable;
- la hauteur maximum de la flamme en mm au-dessus de la base du verre de montre;
- la durée de la flamme en s;

Sécher et repeser le générateur d'aérosols et calculer la masse de produit distribué;
Ventiler la zone de test immédiatement après chaque essai.

c) Compte rendu

Se compte rendu devra comporter les informations indiquées ci-après:

- hauteur maximale de la flamme en mm;
- la durée de la flamme en s;
- la masse de produit testé

d) Remarques

1. Il convient de tester 3 générateurs d'aérosols par produit et de pratiquer 3 déterminations sur chaque générateur d'aérosols.

2. Si le produit distribué reste sous forme de mousse ou de pâte pendant sa durée d'utilisation, le test doit être répété après 5 s, 30 s, 1 min, 2 min et 4 min.

7.2.2 Méthode d'Essai B :

Détermination de la distance d'inflammation d'un spray ou d'un jet émis à partir d'un générateur d'aérosols.

7.2.2.1 Objectif :

Cette méthode a trait à la détermination de la distance d'inflammation d'un spray ou d'un jet émis à partir d'un générateur d'aérosols afin d'apprécier le risque lié à son utilisation par le consommateur.

7.2.2.2 Domaine d'application :

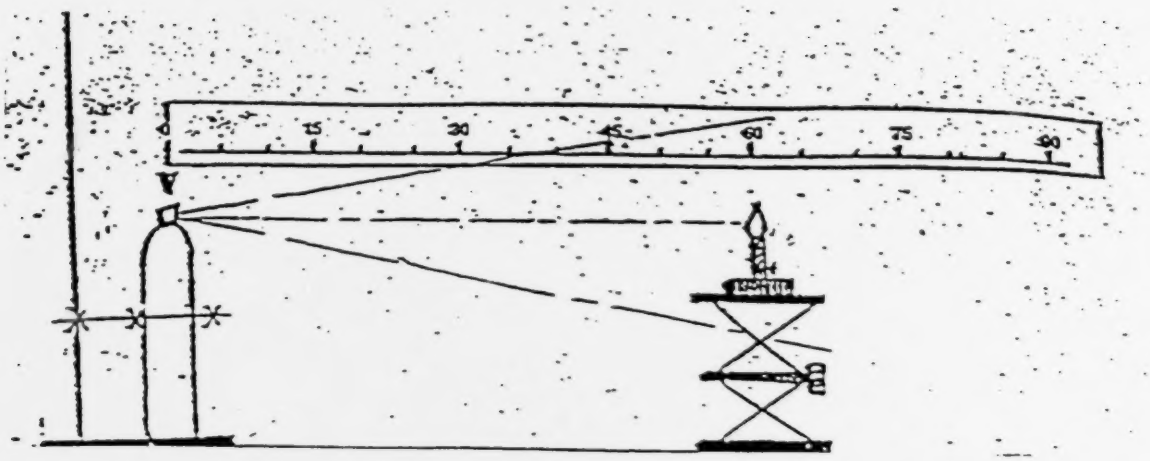
Cette méthode est applicable aux générateurs d'aérosols qui permettent l'obtention d'un spray ou d'un jet de plus de 10 cm de portée. Les générateurs d'aérosols qui distribuent des mousses ou des pâtes sont exclus de cette méthode.

7.2.2.3 Méthode :

a) Matériel et appareillage

chronomètre gradué (0,2 s)
règle graduée, supports et pinces
bec de gaz
bain d'eau maintenu à 20°C ± 1°C
manomètre (0,1 bar)
balance de laboratoire à 0,1g

L'appareillage est décrit ci-dessous: Annexe 1



b) Mode opératoire

Avant de commencer le 1er essai, amorcer le générateur d'aérosols en l'utilisant pendant 1 seconde environ. Ceci doit permettre d'évacuer du tube plongeur le gaz propulseur restant après le remplissage.

Conditionner le générateur d'aérosols dans le bain d'eau maintenu à 20°C ± 1°C, pendant 30 minutes.

Mesurer la pression et la masse du générateur d'aérosols avant chaque essai. La pression sera mesurée à la température à laquelle le test doit être effectué, à savoir 20°C ± 1°C.

Placer la flamme à 60 cm de l'orifice de sortie du générateur d'aérosols (la flamme devra être non éclairante et avoir une hauteur de 5 cm).

Vérifier que l'orifice du diffuseur est bien dirigé vers la flamme.

Actionner le système de diffusion pendant 5 secondes environ (il est recommandé de ne pas dépasser 10 secondes pour éviter l'accumulation de vapeurs dans le local).

Observer s'il y a inflammation :

1. S'il y a inflammation, noter la distance à laquelle se trouvait le bec de gaz lors de cette inflammation.
   On aura ainsi la distance d'inflammation.
   Pour être prise en compte, l'inflammation devra persister 5 secondes.

2. S'il n'y a pas d'inflammation, arrêter la vaporisation puis placer le bec de gaz à 45 cm de l'orifice de sortie du générateur d'aérosols et procéder à un nouvel essai.

Annex I

Après chaque essai négatif le bec de gaz sera déplacé de 15 cm vers le générateur d'aérosols.

3. Si à la distance 15 cm, il n'y a aucune inflammation, la distance d'inflammation sera considérée comme inférieure à 15 cm.

Pour une inflammation obtenue avec le bec de gaz placé à une distance de 30 cm par exemple, la distance d'inflammation sera mentionnée comme étant inférieure à 45 cm.

Pour chaque manipulation, utiliser 3 générateurs d'aérosols et réaliser 3 essais pour chaque générateur d'aérosols et pour chaque distance étudiée.

Les essais seront effectués à:

- 60 cm
- 45 cm
- 30 cm
- 15 cm

Les générateurs d'aérosols devront être testés pour chacun des taux de vidange suivants:

- 0% de taux de vidange (générateur d'aérosols plein)
- 90% de taux de vidange

c) Compte rendu

Les résultats seront présentés comme suit :

Date : Volume net :				Nom : du Produit :						Température : Humidité relative :								
Taux de remplissage	100%									10%								
Générateurs d'aérosol	1			2			3			1			2			3		
Essai	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Distance (cm) d'inflammation																		
Observations																		

d) Remarques importantes

1. Chaque produit testé devra être utilisé conformément au mode d'emploi mentionné sur la notice d'utilisation.

2. Cas des générateurs d'aérosols à pulvérisation verticale:
Pour ce type de générateur, il sera nécessaire d'incliner le banc de mesure de 45°. Le générateur sera aussi incliné de 45° de telle sorte que la génératrice de ce dernier soit parallèle à l'axe longitudinal du banc de mesure. La hauteur de la flamme sera maintenue égale à 5 cm.

7.2.3 Méthode d'Essai C :

Mesure en espace clos de l'inflammabilité des produits qui sortent des générateurs d'aérosols

7.2.3.1 Objectif :

Cet essai a pour objet d'évaluer l'inflammabilité des produits qui sortent des générateurs d'aérosols par leur aptitude à s'enflammer en espace clos ou confiné.

7.2.3.2 Domaine d'application :

Cette méthode est applicable à tous les générateurs d'aérosols à l'exception de ceux distribuant des mousses ou des pâtes.

7.2.3.3 Méthode :

a) Matériel et appareillage

chronomètre gradué (0,2 s)
bain d'eau maintenu à 20°C ± 1°C
manomètre (0,1 bar)
balance de laboratoire à 0,1g

a1) Un récipient cylindrique d'environ 200 dm³ ouvert à une extrémité sera modifié comme suit:

- Un système de fermeture, constitué d'un couvercle à charnière sera adapté à l'extrémité ouverte du récipient ou
- Un film plastique d'une épaisseur de 0,01 à 0,02 mm pourra être utilisé comme système de fermeture.

Si le test est réalisé avec un film plastique, celui-ci devra être utilisé comme indiqué ci-après:

Etendre le film sur l'extrémité ouverte du récipient cylindrique et le maintenir en place avec un élastique suffisamment résistant pour que placé autour du récipient cylindrique couché, il ne s'allonge que de 25 mm quand un poids de 0,45 kg est accroché en son point le plus bas.
Tailler une fente verticale de 25 mm dans le film en commençant à 50 mm du bord du récipient cylindrique.

S'assurer que le film soit bien tendu.

a2) A l'autre extrémité du récipient cylindrique, percer un trou de 50 mm de diamètre à 100 mm du bord de telle sorte que cet orifice se trouve en haut lorsque le récipient cylindrique est couché et prêt pour le test (Schéma A)

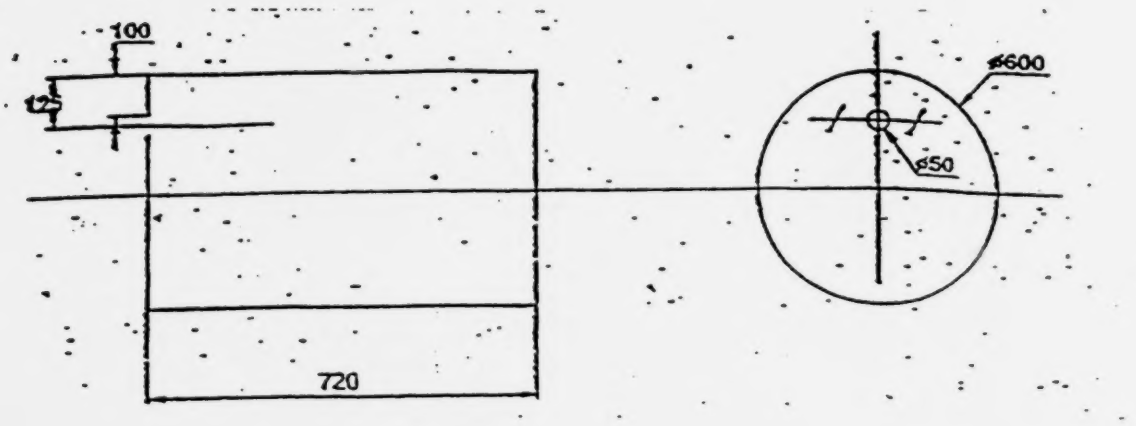


Schéma A

a3) Utiliser un support métallique de 200 mm x 200 mm sur lequel sera placé une bougie de paraffine de 20 à 40 mm de diamètre et de 100 mm de hauteur (Schéma B)

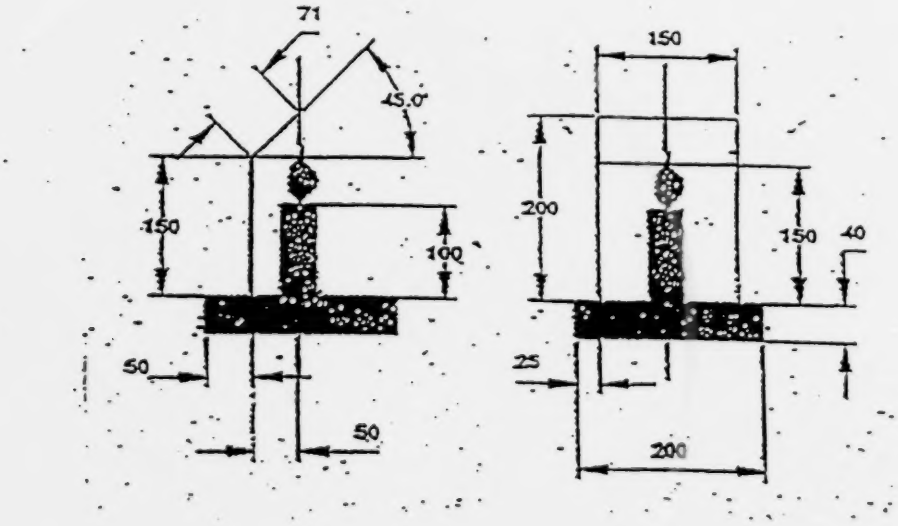


Schéma B

Cette bougie sera placée au milieu du récipient cylindrique (Schéma C) et protégée par un déflecteur de 150 mm de large et 157,1 mm de haut y compris le plan incliné à 45° réalisé à 150 mm de la base du déflecteur.

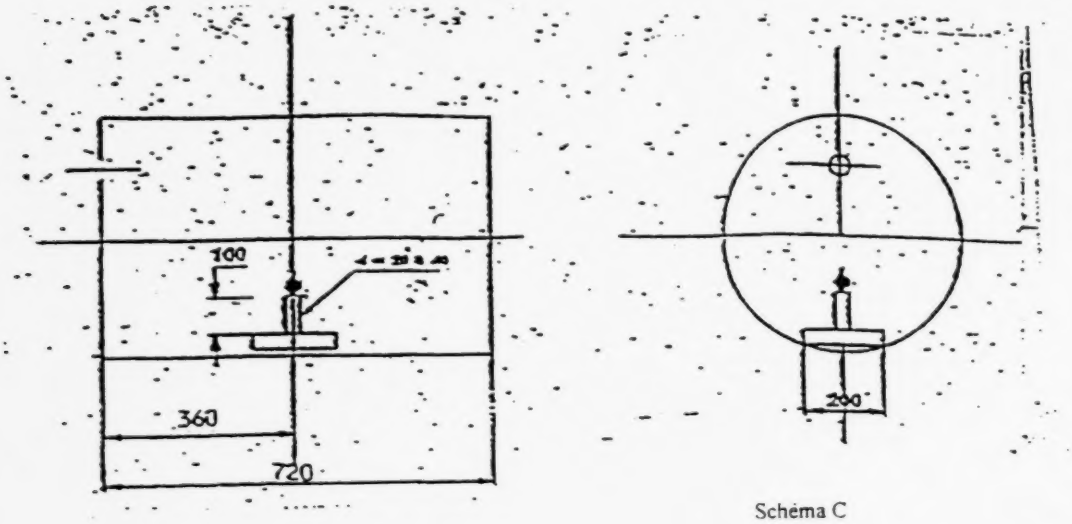


Schéma C

b) Mode opératoire

Le récipient cylindrique est couché sur le sol ou sur un support dans un endroit où la température est comprise entre 15°C et 25°C. Le générateur d'aérosols contenant la formule à tester sera placé dans un bain d'eau maintenu à 20°C ± 1°C, pendant 30 minutes.

La formule à tester est pulvérisée à l'intérieur du récipient cylindrique d'environ 200 dm³ où se trouve une source d'inflammation. (Schéma D)

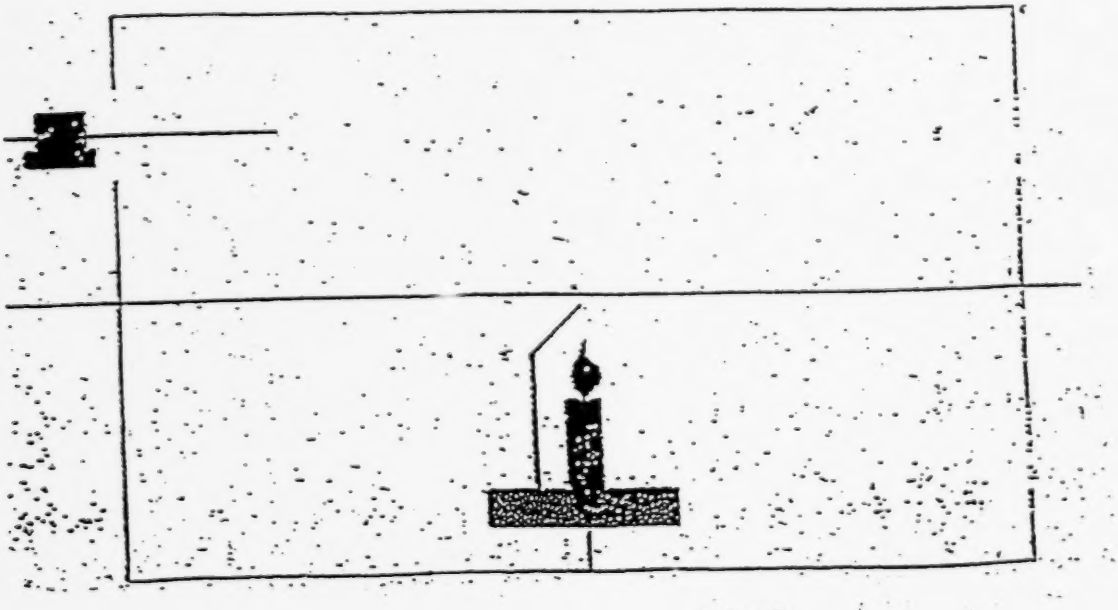


Schéma D

Dès qu'il y a inflammation on mesure le temps écoulé entre le début de la pulvérisation et l'inflammation ainsi que la masse de produit vaporisé.

La manipulation s'effectue comme suit:

- Noter l'humidité relative et la température du local où est effectué l'essai.
- La bougie placée sur le support métallique est positionnée à égale distance des deux extrémités (Schéma C). Le générateur d'aérosols à tester est pesé.
- Allumer la bougie et fixer le système de fermeture (couvercle ou film plastique).
- Placer l'orifice de diffusion du générateur d'aérosols à 35 mm du centre du trou d'entrée dans le récipient cylindrique de 200 dm^3 (Schéma E) et pulvériser en dirigeant le spray vers le milieu de l'extrémité opposée (couvercle ou film plastique). Cette distance pourra être réduite en tant que de besoin notamment dans le cas d'une forte dispersion du jet.

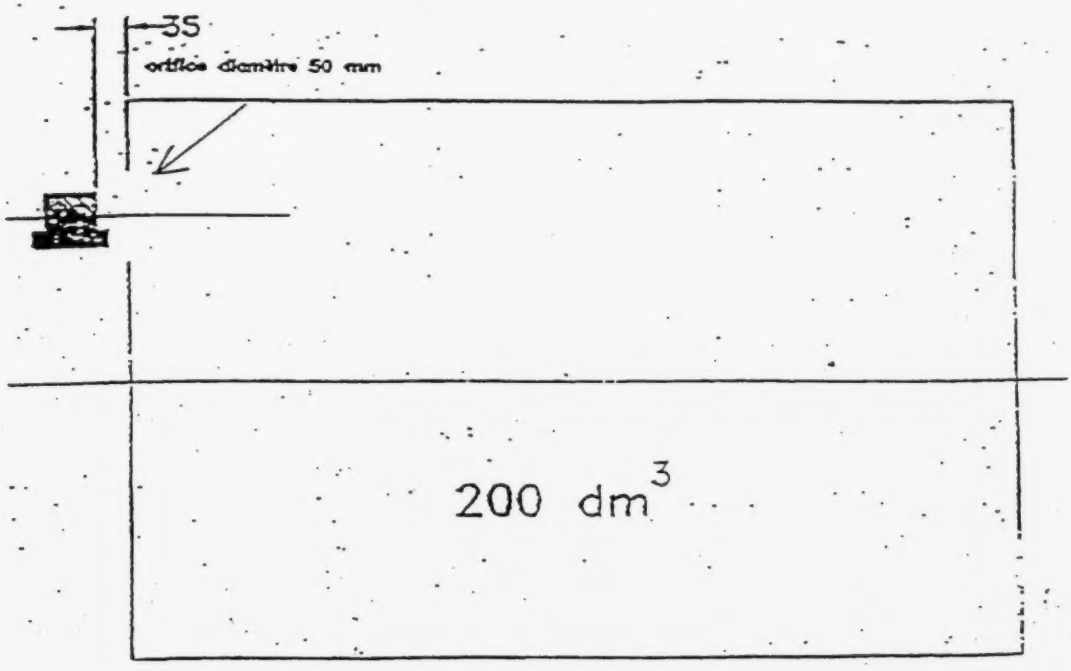


Schéma E

- Maintenir la pulvérisation jusqu'à l'inflammation. Repeser le générateur d'aérosols.
- Ouvrir le récipient cylindrique après chaque test pour renouveler l'atmosphère et enlever tout résidu susceptible d'affecter les tests suivants.
- Répéter l'expérience deux autres fois.

c) Compte rendu

Pour chaque générateur d'aérosols, trois essais seront effectués. Le compte rendu devra mentionner:

1. Le produit testé et ses références, la température et l'humidité relative de l'air du local.

2. Pour chaque essai, le temps de vaporisation nécessaire pour atteindre l'inflammation. (Si le produit ne s'enflamme pas, indiquer la durée des vaporisations).

3. La masse de produit vaporisé lors de chaque essai, exprimée en g.

4. Le volume réel du récipient cylindrique, exprimé en dm^3.

5. La concentration minimale de produit, exprimée en g/dm^3, pour produire l'inflammation:

$$\frac{\text{Masse moyenne pulvérisée}}{\text{Volume réel du récipient cylindrique}} \quad (g/dm^3)$$

6. Le temps équivalent, exprimé en s, pour atteindre l'inflammation dans un volume d'un mètre cube:

$$Teq. = \frac{1000 \times \text{Tps de vaporisation}}{\text{volume réel du récipient cylindrique}} \quad (s)$$

7. Les commentaires ou observations.

d) Remarques

Cas des générateurs d'aérosols à pulvérisation verticale:

Pour ce type de générateur, il sera nécessaire d'incliner le récipient cylindrique de 45°. Le générateur d'aérosols sera également incliné de 45° de telle sorte que la génératrice de ce dernier soit parallèle à la génératrice du récipient cylindrique.

7.3 INTERPRETATION DES RESULTATS ET BENEFICE DE LA DEROGATION

Quelle que soit la méthode, le dépassement des critères énumérés ci-dessous pour un seul essai conduit à ne pas pouvoir bénéficier de la dérogation.

Les dispositions prévues aux points 2.2.b) et 2.3.b) de l'annexe peuvent ne pas être appliquées lorsque, selon le type de générateur d'aérosols, les conditions suivantes sont simultanément satisfaites:

7.3.1 Générateurs d'aérosols dont le contenu sort sous la forme d'une mousse ou d'une pâte (méthode d'essai A)

- la hauteur maximale de la flamme est inférieure ou égale à 7 cm;
- la durée de l'inflammation est inférieure ou égale à 2 s;

7.3.2 Générateurs d'aérosols dont le contenu sort sous la forme d'un spray ou d'un jet

- la distance d'inflammation est inférieure à 30 cm (méthode d'essai B) ce qui signifie qu'aucune flamme stable n'a été observée à cette distance;
- le temps équivalent pour atteindre l'inflammation dans un volume d'un mètre cube (méthode d'essai C) est supérieur à 150 secondes;

7.3.3 Générateurs d'aérosols dont le contenu sort sous la forme d'un spray ou d'un jet et mousse au contact d'une surface

- la hauteur maximale de la flamme (méthode d'essai A) est inférieure ou égale à 7 cm;
- la durée de l'inflammation (méthode d'essai A) est inférieure ou égale à 2 s;
- la distance d'inflammation (méthode d'essai B) est inférieure à 30 cm;
- le temps équivalent pour atteindre l'inflammation dans un volume d'un mètre cube (méthode d'essai C) est supérieur à 150 secondes.»

ANNEX 2

COUNCIL DIRECTIVE

of 20 May 1975

on the approximation of the laws of the Member States relating to aerosol dispensers

(75/324 EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof;

Having regard to the proposal from the Commission;

Having regard to the Opinion of the European Parliament (1);

Having regard to the Opinion of the Economic and Social Committee (2);

Whereas, in certain Member States, aerosol dispensers are required to comply with certain mandatory technical specifications; whereas such specifications differ from one Member State to another and, by so doing, hinder trade within the Community;

Whereas these barriers to the establishment and functioning of the common market can be removed if all the Member States adopt the same specifications, either in addition to or in place of those laid down in their present laws, and whereas these specifications must relate, more particularly, to the manufacture, filling and nominal capacities of aerosol dispensers;

Whereas, at the present stage of technical progress, the field of application of this Directive should be limited to aerosol dispensers made of metal, glass or plastic;

Whereas the technical specifications listed in the Annex to this Directive will need to be promptly adapted in line with technical progress; whereas, to facilitate the implementation of the appropriate necessary measures, a procedure should be laid down for close cooperation between the Member States and the Commission within a Committee on the adaptation to technical progress of the Directive on aerosol dispensers;

Whereas it is possible that some aerosol dispensers placed on the market may represent a safety risk even though they satisfy the requirements of this Directive and of the Annex thereto; whereas a procedure should therefore be laid down to obviate this risk,

HAS ADOPTED THE FOLLOWING DIRECTIVE:

Article 1

This Directive shall apply to aerosol dispensers as defined in Article 2, with the exception of those with a maximum capacity of less than 50 ml. and those with a maximum capacity greater than that specified in points 3.1, 4.1.1, 4.2.1, 5.1 and 5.2 respectively of the Annex to this Directive.

Article 2

For the purpose of this Directive, the term 'aerosol dispenser' shall mean any non-reusable container made of metal, glass or plastic and containing a gas compressed, liquefied or dissolved under pressure, with or without a liquid, paste or powder, and fitted with a release device allowing the contents to be ejected as solid or liquid particles in suspension in a gas, as a foam, paste or powder or in a liquid state.

Article 3

The person responsible for the marketing of aerosol dispensers shall affix the symbol 'ℇ' (inverted epsilon) to aerosol dispensers, as proof that they satisfy the requirements of this Directive and the Annex thereto.

Article 4

The Member States may not, for reasons related to the requirements laid down in this Directive and the Annex thereto, refuse, prohibit or restrict the marketing of any aerosol dispenser which complies with the requirements of this Directive and the Annex thereto.

(1) OJ No C 83, 11. 10. 1973, p. 24.
(2) OJ No C 101, 23. 11. 1973, p. 28.

Article 5

The amendments required to adapt to technical progress the Annex to this Directive shall be adopted according to the procedure laid down in Article 7.

Article 6

1. A committee on the adaptation to technical progress of the Directive on aerosol dispensers, hereinafter called the 'Committee', is hereby set up and shall consist of representatives of the Member States with a Commission representative as Chairman.

2. The Committee shall adopt its rules of procedure.

Article 7

1. Where the procedure laid down in this Article is to be followed, the matter shall be referred to the Committee by its Chairman, either on his own initiative or at the request of the representative of a Member State.

2. The Commission representative shall submit to the Committee a draft of the measures to be taken. The Committee shall deliver its opinion on the draft within a period of two months. Opinions shall be adopted by a majority of 41 votes, the votes of the Member States being weighted as provided in Article 148 (2) of the Treaty. The Chairman shall not vote.

3. (a) The Commission shall adopt the proposed measures where they are in accordance with the Opinion of the Committee.

(b) Where the proposed measures are not in accordance with the opinion of the Committee or if no opinion is delivered, the Commission shall without delay propose to the Council the measures to be adopted. The Council shall act by a qualified majority.

(c) If the Council has not acted within three months of the proposal's being submitted to it, the proposed measures shall be adopted by the Commission.

Article 8

1. Without prejudice to other Community Directives, in particular to Directives on dangerous substances and preparations, each aerosol dispenser or, where particulars cannot be put on the aerosol dispenser due to its small dimensions (maximum capacity of 150 ml or less) a label attached thereto must bear the following particulars in visible, legible and indelible characters:

(a) the name and address or trade mark of the person responsible for marketing the aerosol dispenser,

(b) the symbol '℮' (inverted epsilon) certifying conformity with the requirements of this Directive,

(c) code markings enabling the filling batch to be identified,

(d) the details referred to in point 2.2 of the Annex,

(e) the net contents by weight and by volume.

2. Member States may make the marketing of aerosol dispensers in their territory conditional on the use of their national language or languages for the wording on the label.

Article 9

Member States shall take all necessary measures to prevent the use on aerosol dispensers of markings or inscriptions which might be confused with the symbol '℮' (inverted epsilon).

Article 10

1. If a Member State notes, on the basis of a substantive justification, that one or more aerosol dispensers, although complying with the requirements of the Directive, represent a hazard to safety or health, it may provisionally prohibit the sale of the dispenser or dispensers in its territory or subject it or them to special conditions. It shall immediately inform the other Member States and the Commission thereof, stating the grounds for its decision.

2. The Commission shall, within six weeks, consult the Member States concerned, following which it shall deliver its opinion without delay and take the appropriate steps.

3. If the Commission is of the opinion that technical adaptations to the Directive are necessary, such adaptations shall be adopted by either the Commission or the Council in accordance with the procedure laid down in Article 7. In that case, the Member State having adopted safeguard measures may maintain them until the entry into force of the adaptations.

Article 11

1. The Member States shall bring into force the provisions necessary to comply with this Directive within 18 months of its notification and shall forthwith inform the Commission thereof.

2. The Member States shall communicate to the Commission the texts of the provisions of national law which they adopt in the field covered by this Directive.

Article 12

This Directive is addressed to the Member States.

Done at Brussels, 20 May 1975.

For the Council

The President

R. RYAN

Annex 2

ANNEX

1. DEFINITIONS

1.1. **Pressures**

'Pressures' means the internal pressures expressed in bars (relative pressures).

1.2. **Test pressure**

'Test pressure' means the pressure to which an unfilled aerosol dispenser container may be subjected for 25 seconds without any leakage being caused or, in the case of metal or plastic containers, any visible or permanent distortion except as allowed under 6.1.1.2.

1.3. **Bursting pressure**

'Bursting pressure' means the minimum pressure which causes the aerosol dispenser container to burst or rupture.

1.4. **Total capacity of the container**

'Total capacity of the container' means the volume in millilitres of an open container up to the rim of the opening.

1.5. **Net capacity**

'Net capacity' means the volume in millilitres of a filled and closed aerosol dispenser.

1.6. **Volume of liquid phase**

'Volume of liquid phase' means the volume of the non-gaseous phases in the filled and closed aerosol dispenser.

1.7. **Test conditions**

'Test conditions' means the values of test and bursting pressures exerted hydraulically at 20° C (± 3° C).

1.8. **Flammable contents**

'Flammable contents' means:

(a) gases which are flammable in air at normal pressure;

(b) substances and preparations in liquid form which have a flash point less than, or equal to, 100° C.

The method of determining the flash point is defined in Annex V to Council Directive 67/548/EEC (1) of 27 June 1967 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling, of dangerous substances, as last amended by Directive 73/146/EEC (2);

2. GENERAL PROVISIONS

2.1. **Construction and equipment**

2.1.1. The filled aerosol dispenser must be such that, under normal conditions of use and storage, it complies with the provisions of this Annex.

(1) OJ No 196, 16. 8. 1967, p. 1.
(2) OJ No L 167, 25. 6. 1973, p. 1.

2.1.2. The valve must enable the aerosol dispenser to be virtually hermetically sealed under normal conditions of storage or transport and must be protected, for example by means of a protective cap, against any unintentional opening and any deterioration.

2.1.3. There must be no possibility that the mechanical resistance of the aerosol dispenser can be impaired by the action of the substances contained in it, even during prolonged storage.

2.2. Inscriptions

Without prejudice to the Directives relating to dangerous substances and preparations, each aerosol dispenser or its packing shall be marked clearly and legibly as follows:

(a) 'Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50° C. Do not pierce or burn, even after use.';

(b) 'Do not spray on a naked flame or any incandescent material', unless the aerosol dispenser is designed for that purpose;

(c) 'Flammable' or the symbol of a naked flame if the contents include more than 45 % by weight, or more than 250 g of flammable components.

3. SPECIAL PROVISIONS FOR METAL AEROSOL DISPENSERS

3.1. Capacity

The total capacity of these containers may not exceed 1 000 ml.

3.1.1. *Test pressure of the container*

(a) For containers filled at a pressure of less than 6·7 bars at 50° C, the test pressure must be equal to at least 10 bars.

(b) For containers filled at a pressure equal to or greater than 6·7 bars at 50° C, the test pressure must be 50 % higher than the internal pressure at 50° C.

3.1.2. *Filling*

At 50° C the pressure in the aerosol dispenser must not exceed 12 bars, whatever kind of gas is used for filling.

3.1.3. *Volume of the liquid phase*

The volume of the liquid phase at 50° C must not exceed 87 % of the net capacity. However, for containers with a concave base which becomes convex before bursting, the volume of the liquid phase at 50° C may be as much as 95 % of the net capacity.

4. SPECIAL PROVISIONS FOR GLASS AEROSOL DISPENSERS

4.1. Plastic coated or permanently protected containers

Containers of this type may be used for filling with compressed, liquefied or dissolved gas.

4.1.1. *Capacity*

The total capacity of such containers may not exceed 220 ml.

Annex 2

4.1.2. *Coating*

The coating must be a protective envelope of plastic or other suitable material, intended to prevent the risk of flying particles of glass if the container is accidently broken, and must be so designed that there are no flying particles of glass if the filled aerosol dispenser, brought to a temperature of 20° C, is dropped from a height of 1·8 m onto a concrete floor.

4.1.3. *Test pressure of the container*

(a) Containers used for filling with compressed or dissolved gas must resist a test pressure equal to at least 12 bars.

(b) Containers used for filling with liquefied gas must resist a test pressure equal to at least 10 bars.

4.1.4. *Filling*

(a) Aerosol dispensers filled with compressed gas shall not be required to withstand a pressure of more than 9 bars at 50° C.

(b) Aerosol dispensers filled with dissolved gas shall not be required to withstand a pressure of more than 8 bars at 50° C.

(c) Aerosol dispensers containing liquefied gas or mixtures of liquefied gas shall not be required to withstand, at 20° C, pressures higher than those shown in the following table:

Total capacity	Percentage by weight of liquefied gas in the total mixture		
	20 %	50 %	80 %
50 to 80 ml	3·5 bars	2·8 bars	2·5 bars
< 80 to 160 ml	3·2 bars	2·5 bars	2·2 bars
< 160 to 220 ml	2·8 bars	2·1 bars	1·8 bars

This table shows the pressure limits permitted at 20° C in relation to the percentage of gas.

Pressure limits for percentages of gas not shown in the table shall be extrapolated from it.

4.1.5. *Volume of the liquid phase*

At 50° C, thevolume of the liquid phase of a filled aerosol dispenser must not exceed 90 % of the net capacity.

4.2. **Unprotected glass containers**

Aerosol dispensers using unprotected glass containers shall be filled exclusively with liquefied or dissolved gases.

4.2.1. *Capacity*

The total capacity of these containers may not exceed 150 ml.

4.2.2. *Test pressure of the container*

The test pressure of the container must be equal to at least 12 bars.

4.2.3. *Filling*

(a) Aerosol dispensers filled with dissolved gas shall not be required to withstand a pressure of more than 8 bars at 50° C.

(b) Aerosol dispensers containing liquefied gas shall not be required to withstand, at 20° C, pressures in excess of those shown in the following table:

Total capacity	Percentage by weight of liquefied gas in the total mixture		
	20 %	50 %	80 %
50 to 70 ml	1·5 bar	1·5 bar	1·25 bar
< 70 to 150 ml	1·5 bar	1·5 bar	1 bar

This table shows the pressure limits permitted at 20° C in relation to the percentage of liquefied gas.

Pressure limits for percentages of gas not shown in the table shall be extrapolated from it.

4.2.4. *Volume of the liquid phase*

At 50° C, the volume of the liquid phase of an aerosol dispenser filled with liquefied or dissolved gas must not exceed 90 % of the net capacity.

5. SPECIAL PROVISIONS APPLYING TO PLASTIC AEROSOL DISPENSERS

5.1. Plastic aerosol dispensers which may splinter on bursting shall be treated in the same way as unprotected glass aerosol dispensers.

5.2. Plastic aerosol dispensers which cannot splinter on bursting shall be treated in the same way as glass aerosol dispensers with a protective coating.

6. TESTS

6.1. **Test requirements to be guaranteed by the person responsible for marketing**

6.1.1. *Hydraulic test on empty containers*

6.1.1.1. Metal, glass or plastic aerosol dispensers must be able to withstand a hydraulic pressure test as laid down in 3.1.1, 4.1.3 and 4.2.2.

6.1.1.2. Metal containers showing assymetrical or major distortions or other similar faults shall be rejected. A slight symmetrical distortion of the base or one affecting the profile of the upper casing shall be allowed provided that the container passes the bursting test.

6.1.2. *Bursting test for empty metal containers*

The person responsible for marketing must ensure that the bursting pressure of containers is at least 20 % higher than the test pressure laid down.

6.1.3. *Dropping test for protected glass containers*

The manufacturer must ensure that the containers satisfy the test requirements laid down in 4.1.2.

6.1.4. *Individual inspection of filled aerosol dispensers*

6.1.4.1. (a) Each filled aerosol dispenser shall be immersed in a bath of water. The temperature of the water and the period of immersion must be such as to enable:

— the contents of the aerosol dispenser to reach a uniform temperature of 50° C or

— the pressure in the aerosol dispenser to reach that exerted by its contents at a uniform temperature of 50° C.

(b) Any aerosol dispenser showing visible permanent distortion or a leak must be rejected.

6.1.4.2. However, any test system enabling a result equivalent to that of the water bath method to be obtained may be used by the person responsible for marketing, on his own responsibility and with the agreement of the Committee referred to in Article 6 of the Directive.

6.2. Examples of inspection tests which may be carried out by Member States

6.2.1. *Test on unfilled containers*

The test pressure shall be applied for 25 seconds on five containers selected at random from a homogeneous batch of 2 500 unfilled containers, i.e. manufactured from the same materials by the same continuous batch manufacturing process, or from a batch constituting one hour's production.

If any one of these containers does not pass the test, ten additional containers shall be drawn at random from the same batch and put through the same test.

If any one of these aerosol containers does not pass the test, the whole batch shall be unsuitable for use.

6.2.2. *Tests on filled aerosol dispensers*

Air and water-tightness inspection tests shall be carried out by immersing a representative number of filled aerosol dispensers in a bath of water. The temperature of the bath and the period of immersion must be such as to enable the contents of the aerosol dispenser to attain a uniform temperature of 50° C during the time required to ensure that there is no bursting or rupture.

Any batch of aerosol dispensers which does not pass these tests must be considered unsuitable for use.

COMMISSION DIRECTIVE 94/1/EC

of 6 January 1994

adapting some technicalities of Council Directive 75/324/EEC on the approximation of the laws of the relating Member States to aerosol dispensers

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Council Directive 75/324/EEC of 20 May 1975 on the approximation of the laws of the Member States relating to aerosol dispensers (1), as last amended by the Act of Accession of Spain and Portugal, and in particular Article 10 (3) thereof,

Whereas the safeguard clause provided for in Article 10 of Directive 75/324/EEC has been applied by one Member State;

Whereas the safeguard measures adopted are justified in view of the risks associated with the increased use in aerosol dispensers of extremely flammable propellants as substitutes for chlorofluorocarbons (CFCs);

Whereas certain substances and/or preparations contained in certain aerosol dispensers are particularly flammable;

Whereas the provisions currently in force are not sufficient to prevent certain aerosol dispensers from constituting a safety hazard; whereas these provisions should therefore be adapted;

Whereas some aerosol dispensers, while containing flammable substances and/or preparations, do not present any risk of ignition, whereas a derogation from certain labelling requirements should therefore be provided;

Whereas the provisions contained in this Directive are in accordance with the opinion of the committee on adaptation to technical progress,

HAS ADOPTED THIS DIRECTIVE:

Article 1

Directive 75/324/EEC is hereby amended as follows:

1. Article 8 (1) (d) is replaced by the following:

'(d) the details referred to in points 2.2 and 2.3 of the Annex;'

2. The following Article is inserted after Article 9:

'*Article 9a*

Where the person responsible for the marketing of aerosol dispensers is in possession of test results or other data showing that although those aerosol dispensers have flammable contents they do not present any risk of ignition under normal or reasonably foreseeable conditions of use, he may on his own responsibility decide not to apply the provisions of points 2.2 (b) and 2.3 (b) of the Annex.

He shall make a copy of such documents available to the Member States.

In such a case the quantity of flammable material contained in the aerosol dispenser must be stated clearly on the label, in the form of the following legible and indelible wording: "X % by mass of the contents are flammable".'

3. The Annex is amended as shown in the Annex hereto.

Article 2

1. Member States shall adopt and publish the laws, regulations and administrative provisions necessary to comply with this Directive by 1 October 1994. They shall forthwith inform the Commission thereof.

When Member States adopt these provisions, these shall contain a reference to this Directive or shall be accompanied by such reference at the time of their official publication. The procedure for such reference shall be adopted by Member States.

They shall apply the provisions as from 1 April 1995.

2. Member States shall communicate to the Commission the texts of the provisions of national law which they adopt in the field covered by this Directive.

Article 3

This Directive shall enter into force on the twentieth day following its publication in the *Official Journal of the European Communities*.

Done at Brussels, 6 January 1994.

For the Commission

Martin BANGEMANN

Member of the Commission

(1) OJ No L 147, 9. 6. 1975, p. 40.

ANNEX

The Annex to Directive 75/324/EEC is amended as follows:

(a) Point 1.8 is replaced by the following:

'1.8. *Flammable contents*

"Flammable contents" means the substances and preparations corresponding to the criteria laid down for the categories "extremely flammable", "highly flammable" and "flammable" and listed in Annex VI to Council Directive 67/548/EEC.

The flammability and flash point of the contents of the container shall be determined using the specific methods described in Part A of Annex V to the abovementioned Directive.'

(b) Point 2.2 is replaced by the following:

'2.2. *Labelling*

Without prejudice to the Directives relating to the classification, packaging and labelling of dangerous substances and preparations, particularly as regards danger to health and/or the environment, any aerosol dispenser must visibly bear the following legible and indelible marking:

(a) Whatever its contents: "Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use.",

(b) Where the contents are flammable within the meaning of point 1.8, the flame symbol where appropriate, the indication that the substances and/or preparations contained in the aerosol dispenser, including the propellant, are flammable and the relevant risk phrases determined in accordance with the criteria in points 2.2.3, 2.2.4 or 2.2.5 of Annex VI to Directive 67/548/EEC and, as regards the flame symbol and the indication of danger, in accordance with the provisions of Annex II to the abovementioned Directive.

2.3. *Special statements concerning use*

Without prejudice to the Directives relating to the classification, packaging and labelling of dangerous substances and preparations, particularly as regards danger to health and/or the environment, any aerosol dispenser must visibly bear the following legible and indelible wording:

(a) Whatever its contents: the additional operating precautions which alert consumers to the specific dangers of the product;

(b) Where the contents are flammable, the following warnings:

— "Do not spray on a naked flame or any incandescent material."

— "Keep away from sources of ignition — No smoking."

— "Keep out of the reach of children".'